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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/749,046

12/29/2003

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ACS 66147 (1738C)

7407

24201 7590 10/09/2009  
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EXAMINER

MOULTON, ELIZABETH ROSE

ART UNIT

PAPER NUMBER

3767

MAIL DATE

DELIVERY MODE

10/09/2009

PAPER

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**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/749,046  
Filing Date: December 29, 2003  
Appellant(s): BOYLE ET AL.

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Thomas H Majcher  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 17 July 2009 and 19 June 2009 appealing from the Office action mailed 15 May 2008.

**(1) Real Party in Interest**

A statement identifying by name the real party in interest is contained in the brief.

**(2) Related Appeals and Interferences**

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

**(3) Status of Claims**

The statement of the status of claims contained in the brief is correct.

**(4) Status of Amendments After Final**

No amendment after final has been filed.

**(5) Summary of Claimed Subject Matter**

The summary of claimed subject matter contained in the brief is correct.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

**(7) Claims Appendix**

The copy of the appealed claims contained in the Appendix to the brief is correct. The examiner notes that the patent found in Exhibit 2 filed with the brief on 6/19/09 is not the Broome patent and has a different patent number. It is assumed that this patent was included by mistake.

**(8) Evidence Relied Upon**

5,800,457	GELBFISH	9-1998
6,152,946	BROOME et al	11-2000

**(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

1. Claims 94-116 rejected under 35 U.S.C. 103(a) as being unpatentable over Broome et al (US 6,152,946) in view of Gelbfish (US 5,800,457).

Broome et al teaches a filter element for capturing embolic debris comprising a central region (20) made of a filter membrane (22 "polymer membrane") with small filter openings (40); the filter element being moveable from a collapsed (Fig 5) to an expanded position (Fig 6) by use of a restraining sheath (64).

Broome does not teach that his filter edge has peaks and valleys with different depths and heights. All of the peaks and valleys have the same height.

Gelbfish teaches an embolic filter with an edge of a sinusoidal configuration with valleys and peaks of different depths (Fig 10).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to use the varying heights of Gelbfish for the filter edge since this configuration "serves to effectively decrease the maximum transverse cross-sectional area of filter device by longitudinally distributing the material of the filter body and thereby reducing the accumulation of construction materials" (Col 11 at line 45).

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As to claim 95, 97-100, 102-104, 106-111 see Gelbfish Fig 10.

As to claim 96, 112, 113 see struts 30 in Broome.

As to claim 115, see collar 33 and 28.

### **(10) Response to Argument**

#### Ground 1: Claims 94-116, specifically independent claims 94,101,105, and 114

Appellant argues that Gelbfish does not teach a filter membrane. This is correct, and has been expressly stated by the examiner as the reason for combining the teachings of Gelbfish with the teachings of Broome. The examiner notes that the rejection is Broome in view of Gelbfish. The Broome filter edge (24) is modified to have the sinusoidal shape of Gelbfish (Fig 10). No other modifications of the Broome filter membrane are made. Broome clearly teaches a filter membrane with a plurality of openings, see Fig 1.

Appellant argues that Gelbfish only teaches a straight edge on his web or membrane. Based on Gelbfish's teachings that the web "could be made long enough to cover or envelope...zigzag element 156" (Col 11 line 64-66) and Broome's teaching of a membrane following the shape of the filter edge (Fig 1), one of ordinary skill in the art, in substituting ONLY the wire shape of Gelbfish, would have extended the membrane all the way to the filter edge. Since Gelbfish teaches an explicit advantage to using a sinusoidal shaped filter edge (See Col 11 line 45), it would have been obvious to one of ordinary skill in the art under either the TSM test or the KSR test of improving similar devices in the same way to use the filter edge shape of Gelbfish with the filter system of Broome.

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Ground 2: Dependent claims 115 and 116

Dependent claims 115 and 116 require that each end of the filter struts be attached to a collar. See Broome Fig 1: each strut 30 is attached at one end to collar 33 and at another end to ring 34 which defines the open mouth 28 of the filter assembly. Appellant argues that since the filter element is attached to the frame assembly that collar 28/34 cannot be both part of the frame assembly and a collar. This is not persuasive because the “frame assembly” *comprises/ “made from”/ “having”* a plurality of struts. There is nothing the claims to exclude the collar from being a part of the general frame assembly. There is nothing in the claims that the filter must be attached directly to the struts.

**(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner’s answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/ELIZABETH R MOULTON/

Examiner, Art Unit 3767

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/Kevin C. Sirmons/

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TC 3700 TQAS